Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: John Deere Foundry Waterloo
Facility Location: 2000 Westfield Avenue
Waterloo, IA 50701

Air Quality Operating Permit Number: 02-TV-012R2-M001
Expiration Date: February 12, 2022
Permit Renewal Application Deadline: August 12, 2021

EIQ Number: 92-1317
Facility File Number: 07-01-010

Responsible Official
David A. Davis
Manager Foundry Operations
John Deere Foundry Waterloo
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Permit Contact Person for the Facility
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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit. Separate Title V Permits have been issued for John Deere Waterloo Works – Drive Train Operations, John Deere Tractor Cab Assembly Operations, John Deere Waterloo – Coating Service Center and John Deere Foundry which all are considered one stationary source. This permit is for John Deere Foundry Waterloo.

For the Director of the Department of Natural Resources

Lori Hanson, Supervisor of Air Operating Permits Section Date

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Abbreviations

acfm.....actual cubic feet per minute
CFR.....Code of Federal Regulation
EAF.....electric arc furnace
EIQ.....emissions inventory questionnaire
^{o}F.....degrees Fahrenheit
gr/dscf .....grains per dry standard cubic foot
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
IF.....induction furnace
lb/hr.....pounds per hour
lb/MMBtu .....pounds per million British thermal units
LPG.....liquefied petroleum gas
MVAC.....motor vehicle air conditioner
NG.....natural gas
NSPS.....new source performance standard
ppmv .....parts per million by volume
scfm.....standard cubic feet per minute
TPY.....tons per year
USEPA.....United States Environmental Protection Agency

Pollutants
PM_{10}.....particulate matter ten microns or less in diameter
PM.....particulate matter
SO_2.....Sulfur dioxide
NO_x .....Nitrogen oxides
VOC.....volatile organic compound
CO.....Carbon monoxide
HAP.....hazardous air pollutant
DMEA.....Dimethylethylamine

I. Facility Description and Equipment List

Facility Name: John Deere Foundry Waterloo
Permit Number: 02-TV-012R2-M001
Facility Description: This facility is a gray iron foundry that manufactures agricultural equipment components. (SIC 3321)

Equipment List

A. Melt

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
3000	P-120B	D830 Iron Inoculation	
3002-3004			
3008	P-120C	D830 Molten Metal Transfer	
3010-3011			
3015-3021	P-120F	D830 Slag Loadout	
ALLOYBH	P-120B-IF	Alloy Addition System	99-A-349
IFBH	P-003-IF	Induction Melt Furnace #3	98-A-957-S5
	P-004-IF	Induction Melt Furnace #4	
IFBH2	P-001-IF	Induction Melt Furnace #1	11-A-753-S1
	P-002-IF	Induction Melt Furnace #2	
IFDPBH	P-004-IF	Dust Pellitizer Process for Melt	98-A-958-S1

B. Mold Lines 801/802

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
249	P-248	Mold Line 801 Shakeout	97-A-138-S2
133	P-133	ML 802 Ductile Iron Conversion and Fluid Bed Sand Cooler	
3235-3237	P-132A	802 Pouring and Cooling	
3240-3243			
3330-3332			
3245	P-302	ML 802 Flask Removal	
ESP	P-174	East Sand Pellitizer Dust Silo	78-A-022-S1
IBH1E	P-031	Mold Line 802-Misc. Cast Shakeout/Sand Prep.	77-A-117-S6
IBH2			77-A-118-S6
IBH3W			77-A-119-S6
IIBH1E	P-034		77-A-120-S7
IIBH2			77-A-121-S6
IIBH3			77-A-122-S6
IIBH4W			77-A-123-S6
303	P-303	Pattern Spray Application	

C. Mold Line 804

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
804CS9	804CS	804 Cooling Shed (67 tons/hr)	16-A-126-P
804CS10			16-A-167-P
804MT1	804MT1	804 Magnesium Treatment (67 tons/hr)	11-A-606-S1
804SS1	804LB1-804LB2	804 Sand System	11-A-437-P3
	804PO		
	804POUR		
	804SC1-804SC2		
804SS2	804SO1-804SO2		11-A-438-P3
	804MIX1-804MIX3		
	804CY1-804CY2		

D. Sand

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
SDSABH	P-162	New Sand Silo Storage and Delivery to Process	72-A-040-S3
248	808RS	West Dock Waste Sand Loadout	97-A-139-S2
	808SS	West Dock New Sand Unloading Station	
MDDBH1	P-MDD	Melt Didion Drum Sand Separator	05-A-422
MDDBH2			05-A-423

E. Core

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
069	P-069	D787 OSI Core Oven	01-A-946
071	P-071	D785 Core Oven East	01-A-948
072	P-072	D785 OSI Core Oven West	01-A-949
073	P-073	Core Oven	12-A-501-P1
074	P-074		12-A-502-P1
075	P-075	Sand Handling System	13-A-190-P1
076	P-076		13-A-191-P
082	P-082	Phenolic Urethane Cold Box Core Making Line	95-A-002-P6
083			13-A-192-P2

F. Clean

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
804CR	804BC1 804BC2	804 Blast Cabinets 1-2	11-A-597-S1
	804SBB1 804SBB2 804SBB3 804SBB4	804 Spot Blast Booths 1-4	
CLRBH-4	P-009	D850 Primary Blast Cabinet	09-A-325-S1
	P-010	D850 Reblast and Core Knockout Cabinet	
	P-011A	D850 Spotblast	
	P-017	D853 Primary Blast Cabinet	

G. Jobbing Floor

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
091	P-091	Mold Line-Phenolic Urethane No-Bake Core Making (Jobbing Floor)	95-A-005-P4
301	P-301	Jobbing Floor Pouring, Cooling, and Shakeout	

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
P-183	Line 801/802 Casting Cooling Area Exhaust Fans
P-173	East Sand Pelletizer Loadout
P-012	D855 Tumblast
801DD	Line 801 Didion Drum
RRBH1	Refractory Reline Area
Bond Silo	Bond Storage Silo
P-242	Sand Reclaim/Sweeper Dump
P-218	Chaplet Adhesive Core Adhesive
P-830	Solvent Tank
P-117	D737 Phenolic Urethane No Bake Resin I Tank
P-118	D737 Phenolic Urethane No Bake Catalyst Tank
P-119	D737 Phenolic Urethane No Bake Resin II Tank
P-163	D701 Phenolic Urethane Cold Box Resin I Tank 1
P-164	D701 Phenolic Urethane Cold Box Resin I Tank 2
P-166	D701 Phenolic Urethane Cold Box Resin II Tank 1
P-167	D701 Phenolic Urethane Cold Box Resin II Tank 2
P-182*	Gas-Fired Heating Equipment
P-185D	Ladle Preheat (Propane) (801/802 Pouring Ladles and D830 Tundish Ladles)
737BACT	Jobbing Floor Baghouse for Sand Handling
P-300	Scrap Receiving and Handling
ESP-M	East Sand Pelletizer
FUG1	Fugitive Cleaning Room VOC Emissions
FUG2	Fugitive Inspection VOC Emissions
FUG3	Fugitive Pattern Shop Emissions
T-1	10,000 Gallon Diesel Tank
T-2	500 Gallon Diesel Tank
T-3	300 Gallon Gasoline Tank
T-API Tank	API Oily Wastewater Tank
T-Filter	PH7 Filter Rinsate Tank
T-836 East	D836 Glycol Tank - East
T-836 West	D836 Glycol Tank - West
T-C1/C2	C1/C2 Glycol Tank Emissions
T-Mid Melt	D830 Main Glycol Storage Tank
T-C4	C4 Glycol Tank
T-C3	C3 Glycol Tank
T-Well	Well Water Treatment Tank
SUE 5	CB50 Additive System
SUE 7	850 CKO Shot Classifier
SUE 16	802 Pattern Spray Application
3DP	3D Core Printer

*See Table Gas-Fired Heating Equipment below for a breakdown of insignificant natural gas-fired heating units within the foundry.

Table Gas-Fired Heating Equipment

Source Description	Number of Units	MMBtu/hr per Unit
Overhead Door Heater #1	1	1.73
Overhead Door Heater #2	1	1.73
Overhead Door Heater #3	1	0.82
General Area Space Heater	2	2.00
Penthouse #1 Space Heater	4	1.40
Penthouse #2 Space Heater	2	0.75
Penthouse #3 Space Heater	2	0.45
Penthouse #4 Substation Heater	1	0.175
Penthouse #5 Substation Heater	1	0.25
Penthouse #6 Substation Heater	1	0.175
Penthouse #7 Substation Heater	1	0.25
Unit Roof Heaters	28	5.40
Unit Roof Heaters	39	6.48
8001 AHU-1 Heating System	1	0.36
Central Water Heater Building 8001	1	0.90
8002 AHU-2 Heating System	1	0.20
Central Water Heater Building 8002	1	1.247
D808 Sand Shed Space Heater	2	0.70
D730 West Dock Space Heater #1	1	0.15
D730 West Dock Space Heater #2	1	0.15
ETA Baghouse B Space Heaters	3	0.50
ETA Baghouse B Pellitizer Space Heater	1	0.20
D801 Sand Cooler	1	0.405
East Melt IF Baghouse	2	0.50
West Melt IF Baghouse	1	0.20
Melt Induction Furnace Baghouse	1	0.20
Melt Substation Space Heater	1	0.243
Class 1 Store Room Boiler	1	1.90
East Pellitizer Heater	1	0.75
CLRBH4 Baghouse	2	0.20
CLRBH4 Baghouse	1	0.06
804 Sand System Baghouse	3	0.20
804 Clean Room Baghouse	2	0.20
Xray Building	1	0.10
Heating System Building 8005	1	0.825
Heating System Building 1030	1	1.562

II. Plant-Wide Conditions

Facility Name: John Deere Foundry Waterloo
Permit Number: 02-TV-012R2-M001

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five (5) years
Commencing on: February 13, 2017
Ending on: February 12, 2022

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limits
Unless specified otherwise in the Emission Point-Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO_2): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be handled, transported or stored or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or

dust generated by ordinary travel on unpaved roads. Ordinary travel includes routine traffic and road maintenance activities such as scarifying, compacting, transporting road maintenance surfacing material, and scraping of the unpaved public road surface. (the preceding sentence is State Only) All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

Authority for Requirement: 567 IAC 23.3(2)"c"

NSPS and NESHAP Applicability

The emissions units of John Deere Foundry Waterloo are not subject to a NSPS subpart at this time.

The operations at this facility are subject to the requirements of 40 CFR, Part 63, Subpart A – General Provisions and 40 CFR, Part 63, Subpart EEEEE – National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries.

Authority for Requirement: 40 CFR Part 63 Subpart EEEEE
567 IAC 23.1(4)"de"

III. Emission Point-Specific Conditions

Facility Name: John Deere Foundry Waterloo
Permit Number: 02-TV-012R2-M001

Emission Point ID Number: 3000, 3002-3004, 3008, 3010-3011, 3015-3021

Emission Unit Description

Table: 3000 Series Fans

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (tons/hr)
3000 3002-3004 3008 3010-3011 3015-3021	P-120B	D830 Iron Inoculation	Metal	72
	P-120C	D830 Molten Metal Transfer		72
	P-120F	D830 Slag Loadout		40

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP AlloyBH

Associated Equipment

Associated Emission Unit ID Numbers: P-120B-IF
Emissions Control Equipment ID Number: CE AlloyBH
Emissions Control Equipment Description: Alloy Addition System Baghouse

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Emission Unit vented through this Emission Point: P-120B-IF
Emission Unit Description: Alloy Adding System
Raw Material/Fuel: Alloy
Rated Capacity: 0.12 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 99-A-349

(1) If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: PM_{10}
Emission Limit: 0.64 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 99-A-349

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf, 0.64 lb/hr
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 99-A-349

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 66
Stack Opening, (inches, dia.): 22
Exhaust Flow Rate (acfm): 10,000
Exhaust Temperature (°F): 90
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 99-A-349

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the

emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE AlloyBH Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP IFBH

Associated Equipment

Associated Emission Unit ID Number: P-003-IF, P-004-IF
Emissions Control Equipment ID Number: CE IFBH
Emissions Control Equipment Description: Induction Furnace Baghouse

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Emission Unit vented through this Emission Point: P-003-IF, P-004-IF
Emission Unit Description: Induction Furnaces #3 and #4
Raw Material/Fuel: Metal
Rated Capacity: 49.5 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 98-A-957-S5

(1) Opacity limits are:
a. Per 567 IAC 23.3(2)"d" the limit on the stack is 40%. In addition, an exceedance of the indicator opacity of "*no visible emissions*" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
b. Per 40 CFR §63.7690(a)(7), fugitive emissions shall not be discharged to the atmosphere from the foundry operations that exhibit opacity greater than 20% on a six (6) minute average except for one (1) six (6) minute average per hour that does not exceed 27%.

Pollutant: PM_{10}
Emission Limit: 5.95 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 98-A-957-S5

Pollutant: Particulate Matter
Emission Limit: 5.95 lb/hr, 0.005gr/dscf (2)
Authority for Requirement: 567 IAC 23.1(4) "de"
Iowa DNR Construction Permit 98-A-957-S5

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 18.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 98-A-957-S5

Pollutant: Lead (Pb)
Emission Limit: 0.065 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 98-A-957-S5

Pollutant: Total Metal (HAP)[(2)]
Emission Limit: 0.0004 gr/dscf
Authority for Requirement: 567 IAC 23.1(4) "de"
Iowa DNR Construction Permit 98-A-957-S5

[(2)] Per 40 CFR §63.7690(a)(1), emissions discharged to the atmosphere shall not exceed either:
a. 0.005 grains of PM per dry standard cubic foot (gr/dscf) or
b. 0.0004 gr/dscf of total metal hazardous air pollutant (HAP).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for these emission units shall be:

1. Per 40 CFR §63.7700, the owner or operator shall meet all applicable work practice standards.
2. Per 40 CFR §63.7710, the owner or operator shall meet all applicable operation & maintenance requirements.
3. Per 40 CFR §63.7720(c), the owner or operator shall develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in 40 CFR §63.6(e)(3).
4. The owner or operator shall do all monitoring required by NESHAP Subpart EEEEE (See 40 CFR §63.7740 – 40 CFR §63.7747.
5. Per 567 IAC 33.3(18)"f"(1), prior to beginning actual construction of the project (Project Number 08-068) the owner or operator shall document:
   a. A description of the project (Project Number 08-068),
   b. Identification of the emission unit(s) whose emissions of a regulated NSR pollutant could be affected by the project (Project Number 08-068), and
   c. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions (BAE), the projected actual emissions (PAE), the amount of emissions excluded under paragraph "3" of the definition of "*projected actual emissions*" in subrule 33.3(1), an explanation describing why such amount was excluded, and any netting analysis if applicable.
6. Per 567 IAC 33.3(18)"f"(4), the owner or operator shall:
   a. Monitor the emission of any regulated NSR pollutant that could increase as a result of the project that is emitted by any emissions unit identified in Condition 14.E.(2).
   b. Calculate the annual emissions, in tons per year on a calendar-year basis, for a period of five (5) years following resumption of regular operations and maintain a record of regular operations after the change.
7. Per 567 IAC 33.3(18)"g", the owner or operator shall make the information required to be documented and maintained pursuant to 567 IAC 33.3(18)"f" available for review upon request for inspection by the Department or the general public pursuant to the requirements for Title V operating permits contained in 567 IAC 22.107(6).

Reporting & Record keeping:
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall keep all applicable records as required per 40 CFR §63.7752. Per 40 CFR §63.7752, these records shall be kept for five (5) years. The records shall be kept on-site for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record per 40 CFR §63.10(b)(1). The owner or operator may keep the records for the previous three (3) offsite.
2. Per 567 IAC 33.3(18)"f"(1), the owner or operator shall maintain a record of the information required in Condition 14.E. of this permit.
3. Per 567 IAC 33.3(18)"f"(4) and 567 IAC 33.3(18)"f"(5), the owner or operator shall maintain a record containing the information required in Condition 14.F. of this permit and that record shall be retained by the owner or operator for a period of ten (10) years after the project (Project Number 08-068) is completed.

Authority for Requirement: Iowa DNR Construction Permit 98-A-957-S5

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 80
Stack Opening, (inches, dia.): 100
Exhaust Flow Rate (scfm): 100,000 to 200,000 (i.e., 1 or 2 fans)
Exhaust Temperature (°F): 150
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 98-A-957-S5

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant: Particulate Matter [(1) (2)]
Stack Test to be Completed by –Every 5 years [(3)]
Test Method - 40 CFR 60, Appendix A, Method 5
Authority for Requirement - Iowa DNR Construction Permit 98-A-957-S5

[(1)] Testing shall be conducted per 40 CFR §63.7734 to demonstrate compliance with either the PM limit or the Total Metal HAP limit in Condition 10 from NESHAP Subpart EEEEE.
[(2)] Required per NESHAP Subpart EEEEE (See 40 CFR §63.7731).

(3) This test was last conducted on July 17, 2014.

Pollutant: Metal HAP (4) (5)
Stack Test to be Completed by –Every 5 years (6)
Test Method - 40 CFR 60, Appendix A, Method 5
Authority for Requirement - Iowa DNR Construction Permit 98-A-957-S5

(4) Testing shall be conducted per 40 CFR §63.7734 to demonstrate compliance with either the PM limit or the Total Metal HAP limit in Condition 10 from NESHAP Subpart EEEEE.
(5) Required per NESHAP Subpart EEEEE (See 40 CFR §63.7731).
(6) This test was last conducted on July 17, 2014.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE IFBH Baghouse

The emission Point IFBH is not subject to a CAM Plan, because the PM emissions from this source are covered under 40 CFR, Part 63, Subpart EEEEE, "National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries".
Authority for Requirement: 567 IAC 23.1(4) "de"
40 CFR Part 63 Subpart EEEEE

Emission Point ID Number: EP IFBH2

Associated Equipment

Associated Emission Unit ID Number: P-001-IF, P-002-IF
Emissions Control Equipment ID Number: CE IFBH2
Emissions Control Equipment Description: Induction Furnace Baghouse

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Emission Unit vented through this Emission Point: P-001-IF, P-002-IF
Emission Unit Description: Induction Furnaces #1 and #2
Raw Material/Fuel: Metal
Rated Capacity: 44 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 11-A-753-S1

(1) Opacity limits are:

- Per 567 IAC 23.3(2)"d" the limit on the stack is 40%. In addition, an exceedance of the indicator opacity of "*no visible emissions*" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
- Per 40 CFR §63.7690(a)(7), fugitive emissions shall not be discharged to the atmosphere from the foundry operations that exhibit opacity greater than 20% on a six (6) minute average except for one (1) six (6) minute average per hour that does not exceed 27%.

Pollutant: PM_{10}
Emission Limit: 5.95 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-753-S1

Pollutant: Particulate Matter
Emission Limit: 5.95 lb/hr, 0.005gr/dscf (2)
Authority for Requirement: 567 IAC 23.1(4) "de"
Iowa DNR Construction Permit 11-A-753-S1

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 18.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-753-S1

Pollutant: Lead (Pb)
Emission Limit: 0.065 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-753-S1

Pollutant: Total Metal (HAP) [(2)]
Emission Limit: 0.0004 gr/dscf
Authority for Requirement: 567 IAC 23.1(4) "de"
Iowa DNR Construction Permit 11-A-753-S1

[(2)] Per 40 CFR §63.7690(a)(1), emissions discharged to the atmosphere shall not exceed either:
- 0.005 grains of PM per dry standard cubic foot (gr/dscf) or
- 0.0004 gr/dscf of total metal hazardous air pollutant (HAP).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for these emission units shall be:

1. Per 40 CFR §63.7700, the owner or operator shall meet all applicable work practice standards.
2. Per 40 CFR §63.7710, the owner or operator shall meet all applicable operation & maintenance requirements.
3. Per 40 CFR §63.7720(c), the owner or operator shall develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in 40 CFR §63.6(e)(3).
4. The owner or operator shall do all monitoring required by NESHAP Subpart EEEEE (See 40 CFR §63.7740 – 40 CFR §63.7747.

Reporting & Record keeping:

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall keep all applicable records as required per 40 CFR §63.7752. Per 40 CFR §63.7752, these records shall be kept for five (5) years. The records shall be kept on-site for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record per 40 CFR §63.10(b)(1). The owner or operator may keep the records for the previous three (3) offsite.

Authority for Requirement: Iowa DNR Construction Permit 11-A-753-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 80
Stack Opening, (inches, dia.): 100
Exhaust Flow Rate (acfm): 100,000 to 200,000 (i.e., 1 or 2 fans)
Exhaust Temperature (°F): 150
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 11-A-753-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant: Particulate Matter (1) (2)
Stack Test to be Completed by – Every 5 years (3)
Test Method - 40 CFR 60, Appendix A, Method 5
Authority for Requirement - Iowa DNR Construction Permit 11-A-753-S1

(1) Testing shall be conducted per 40 CFR §63.7734 to demonstrate compliance with either the PM limit or the Total Metal HAP limit in Condition 10 from NESHAP Subpart EEEEE.
(2) Required per NESHAP Subpart EEEEE (See 40 CFR §63.7731).
(3) This test was last conducted on July 16, 2014.

Pollutant: Metal HAP (1) (2)
Stack Test to be Completed by – Every 5 years (3)
Test Method - 40 CFR 60, Appendix A, Method 5
Authority for Requirement - Iowa DNR Construction Permit 11-A-753-S1

(1) Testing shall be conducted per 40 CFR §63.7734 to demonstrate compliance with either the PM limit or the Total Metal HAP limit in Condition 10 from NESHAP Subpart EEEEE.
(2) Required per NESHAP Subpart EEEEE (See 40 CFR §63.7731).
(3) This test was last conducted on July 16, 2014.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE IFBH2 Baghouse

The emission Point IFBH2 is not subject to a CAM Plan, because the PM emissions from this source are covered under 40 CFR, Part 63, Subpart EEEEE, "National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries".

Authority for Requirement: 567 IAC 23.1(4) "de"
40 CFR Part 63 Subpart EEEEE

Emission Point ID Number: IFDPBH

Associated Equipment

Associated Emission Unit ID Number: P-004-IF
Emissions Control Equipment ID Number: CE IFDPBH
Emissions Control Equipment Description: Induction Furnace Dust Pelletizer Baghouse

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Emission Unit vented through this Emission Point: P-004-IF
Emission Unit Description: IF Dust Pelletizer
Raw Material/Fuel: IF Dust
Rated Capacity: 0.07 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 98-A-958-S1

(1) If visible emissions are observed the owner/operator is required to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 0.18 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 98-A-958-S1

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 98-A-958-S1

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:
1. This silo is limited to operating a maximum of eight (8) hours per day.

Reporting & Record keeping:
Records shall be maintained on site for five (5) years and be available for inspection upon request by representatives of the Department of Natural Resources. These records shall show the following:

1. Record the number of hours per day this silo is operated.

Authority for Requirement: Iowa DNR Construction Permit 98-A-958-S1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 86
Stack Opening, (inches, dia.): 16
Exhaust Flow Rate (scfm): 3,655
Exhaust Temperature (°F): 120
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 98-A-958-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP MDDBH1 & EP MDDBH2

Associated Equipment

Associated Emission Unit ID Number: MDD

Emission Unit Description

Table: Melt Didion Drum

Emission Point Number	Emission Unit Number	Emission Unit Description	Rated Capacity	Control Unit Number	Construction Permit Number
MDDBH1	MDD	Melt Didion Drum Rotary Sand Separator	Metal:65 ton/hr Sand: 10 ton/hr	MDDBH1	05-A-422
MDDBH2				MDDBH2	05-A-423

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Emission Point Number	Emission Unit Number	Opacity (567 IAC 23.3(2)"d")	Particulate Matter (567 IAC 23.4(6))		PM_{10} (lb/hr)
MDDBH1	MDD	40% (1)	0.57 (lbs/hr)	0.05 gr/dscf	0.57
MDDBH2			2.51 (lbs/hr)	0.05 gr/dscf	2.51

(1) If visible emissions are observed the owner/operator is required to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Authority for Requirement: Iowa DNR Construction Permit See Table Melt Didion Drum

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Emission Point Number	Stack Height (feet from ground)	Stack Opening (inches, dia.)	Exhaust Flow Rate (scfm)	Exhaust Temp. (°F)	Discharge Style
MDDBH1	68.9	24	12,000	Ambient	Vertical Unobstructed
MDDBH2	68.9	40	40,000	Ambient	Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit See Table Melt Didion Drum

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the

emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant(s) – Particulate Matter (PM) – State
Stack Test to be Completed by – December 31, 2020
Test Method – 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 22.108(3)

Pollutant –Particulate Matter <10µm (PM_{10})
Stack Test to be Completed by – December 31, 2020
Test Method – 40 CFR 51, Appendix M, 201A with 202 (1)
(1) or an approved alternative
Authority for Requirement - 567 IAC 22.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE MDDBH1 & MDDBH2 Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 249

Associated Equipment

Associated Emission Unit ID Number: P-248
Emissions Control Equipment ID Number: ML801BHB
Emissions Control Equipment Description: Mold Line 801 and Shakeout Baghouse

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Emission Unit vented through this Emission Point: P-248
Emission Unit Description: ML801 Primary and Secondary Shakeout and Miscellaneous Sand Equipment
Raw Material/Fuel: Metal/Sand
Rated Capacity: 41.10 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 97-A-138-S2

(1) If visible emissions are observed other than at startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: PM_{10}
Emission Limit: 25.0 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 97-A-138-S2

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 97-A-138-S2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:

1. Table 249

Emission Point Number	Emission Unit Number	Dust Pickup Areas
249	P-248	The following units shall be associated with Mold Line 801 and vented to emission point 249: ▪ Primary Shakeout ▪ Secondary Shakeout ▪ New Dust Silo Mixer #1 ▪ Cycle Discharge ▪ Sand Belt ▪ Elevator ▪ Drag Spill Conv Dsch ▪ Cope Punchout ▪ Belt 603 ▪ Belt 604 ▪ Belt 103F ▪ Belt 611 ▪ Sand Bin ▪ Sand Muller ▪ Drag Machine ▪ Belt 606 ▪ SK Cope Machine ▪ Lumpbreaker ▪ Sand Cooler ▪ Belt 106 ▪ Additional Feed System

Authority for Requirement: Iowa DNR Construction Permit 97-A-138-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 110
Stack Opening, (inches, dia.): 132
Exhaust Flow Rate (acfm): 375,000
Exhaust Temperature (°F): 110
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 97-A-138-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant(s) – Particulate Matter (PM) – State
Stack Test to be Completed by – December 31, 2019
Test Method – 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 22.108(3)

Pollutant –Particulate Matter <10µm (PM_{10})
Stack Test to be Completed by – December 31, 2019
Test Method – 40 CFR 51, Appendix M, 201A with 202[(1)]
[(1)] or an approved alternative
Authority for Requirement - 567 IAC 22.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE ML801BHB Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 3100, 3125-3127, 3130-3133, 3135, 3141

Associated Equipment

Associated Emission Unit ID Numbers: EU P-123

Emission Unit Description

Table: 3100 Series Fans

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (tons/hr)
3100 3125-3127 3130-3133 3135 3141 3145 3147	P-123	801 Pouring and Cooling	Metal	22.83

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 133

Associated Equipment

Associated Emission Unit ID Number: P-133
Emissions Control Equipment ID Number: CE 133
Emissions Control Equipment Description: Ductile Iron Conversion and Sand Cooler Baghouse

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Emission Unit vented through this Emission Point: P-133
Emission Unit Description: ML 802 Ductile Iron Conversion and Fluid Bed Sand Cooler
Raw Material/Fuel: Metal
Rated Capacity: 11.42 tons/hr

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 3235-3237, 3240-3243, 3330-3332

Associated Equipment

Associated Emission Unit ID Numbers: EU P-132A

Emission Unit Description

Table: 3200 Series Fans

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (tons/hr)
3235-3237 3240-3243 3330-3332	P-132A	802 Pouring and Cooling	Metal	22.83

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 3245

Associated Equipment

Associated Emission Unit ID Number: P-302

Emission Unit vented through this Emission Point: P-302
Emission Unit Description: ML 802 Flask Removal
Raw Material/Fuel: Molds
Rated Capacity: 22.83 tons/hr

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP ESP

Associated Equipment

Associated Emission Unit ID Number: P-174
Emissions Control Equipment ID Number: CE ESP
Emissions Control Equipment Description: East Sand Pelletizer Dust Silo Bin Vent

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Emission Unit vented through this Emission Point: P-174
Emission Unit Description: East Sand Pelletizer-Bin Vent
Raw Material/Fuel: Sand
Rated Capacity: 2.55 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit: 0.05 gr/scf
Authority for Requirement: 567 IAC 23.4(6)

Note: this emission unit is cover by the Iowa DNR Construction Permit 78-A-022-S1 which contains no conditions.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: IBH1E, IBH2, IBH3W, IIBH1E, IIBH2, IIBH3, IIBH4W

Emission Unit Description

Table BH1

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (ton/hr)
IBH1E	IBH1E	Baghouse	P-031	ML802 Casting & Sand Grind. - System I	Metal	38.60
IBH2	IBH2	Baghouse				
IBH3W	IBH3W	Baghouse				
IIBH1E	IIBH1E	Baghouse	P-034	ML802 Casting & Sand Grind. - System II	Metal	38.60
IIBH2	IIBH2	Baghouse				
IIBH3	IIBH3	Baghouse				
IIBH4W	IIBH4W	Baghouse				

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from each emission point identified in Table BH2 shall not exceed the following specified levels.

Table BH2

Emission Point Number	Associated Emission Unit Number	Opacity Limit	PM_{10} Limit (lb/hr)		PM Limit (gr/scf)	PM Limit (lb/hr)	Construction Permit #
IBH1E	P-031	20%[3]	2.82	2.52[4]	0.05[1]	2.52[4]	77-A-117-S6
IBH2			2.82		0.05[1]		77-A-118-S6
IBH3W			2.82		0.05[1]		77-A-119-S6
IIBH1E	P-034		2.93	0.76[5]	0.01[2]	0.76[5]	77-A-120-S7
IIBH2			2.93		0.01[2]		77-A-121-S6
IIBH3			2.93		0.01[2]		77-A-122-S6
IIBH4W			2.93		0.01[2]		77-A-123-S6

(1) 567 IAC 23.4(6) is the authority for the requirement

(2) 567 IAC 23.4(13) is the authority for the requirement

(3) If visible emissions are observed other than start-up, shutdown or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

(4) These pound per hour emission limits apply only to the sum of emissions from EP IBH1E, EP IBH2 and EP IBH3W emissions from the Vibrating Fluid Bed Sand Cooler and the Vibrating

Lump Breaker combined after the control device. The emission limits are established to keep Project 10-247 minor for PSD purposes.

(5) These pound per hour emission limits apply only to the sum of emissions from EP IIBH1E, EP IIBH2, EP IIBH3 and EP IIBH4W emissions from the Scalping Drum and the Scalping Drum Discharge combined after the control device. The emission limits are established to keep Project 10-247 minor for PSD purposes.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Table BH3

Emission Point Number	Emission Unit Number	Operating limits for this emission unit shall be:	Construction Permit #
IBH1E	P-031	1. The baghouse, CE IBH1E, differential pressure drop shall be maintained between 2 and 6 inches water column. 2. The owner or operator shall develop an operating and maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.	77-A-117-S6
IBH2			77-A-118-S6
IBH3W			77-A-119-S6
IIBH1E	P-034	1. The baghouse, CE IBH2, differential pressure drop shall be maintained between 2 and 6 inches water column. 2. The owner or operator shall develop a operating and maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.	77-A-120-S7
IIBH2			77-A-121-S6
IIBH3			77-A-122-S6
IIBH4W			77-A-123-S6

Reporting & Record keeping:

Records shall be maintained on site for five (5) years and be available for inspection upon request by representatives of the Department of Natural Resources. These records shall show the following:

1. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
2. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per calendar day. This requirement shall not apply on the days that the baghouse is not in operation.
3. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the control equipment.

Authority for Requirement: Iowa DNR Construction Permits specified in Tables BH3

Emission Point Characteristics
These emission points shall conform to the conditions specified in Table BH4.

Table BH4

Emission Point Number	Emission Unit Number	Stack Height, (ft, from ground)	Stack Opening (inches, dia.)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
IBH1E	P-031	80.5	47	33,488	100	Vertical Unobstructed
IBH2		80.5	47	33,488	100	Vertical Unobstructed
IBH3W		80.5	47	33,488	100	Vertical Unobstructed
IIBH1E	P-034	80.5	47	35,450	100	Vertical Unobstructed
IIBH2		80.5	47	35,450	100	Vertical Unobstructed
IIBH3		80.5	47	35,450	100	Vertical Unobstructed
IIBH4W		80.5	47	35,450	100	Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permits specified in Table BH4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE IBH1E, IBH2, IBH3W, IIBH1E, IIBH2, IIBH3 IIBH4W

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 303

Associated Equipment

Associated Emission Unit ID Number: P-303

Emission Unit vented through this Emission Point: P-303
Emission Unit Description: Pattern Spray Application
Raw Material/Fuel: Release Agent
Rated Capacity: 0.024 tons/hr

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 804CS9 and 804CS10

Associated Equipment

Associated Emission Unit ID Number: 804CS

Emission Unit Description

Table: D804 Cooling Shed

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (tons/hr)	Construction Permit #
804CS9	804CS	804 Cooling Shed	Metal	67.0	16-A-126-P
804CS10					16-A-127-P

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits:

Pollutant	Limit 1	Limit 2	Reference (567 IAC)
Volatile Organic Compounds (VOC)	8.00 ppm_v (1)	2.50 lb/ton (2)	BACT
Carbon Monoxide (CO)	58.0 ppm_v (1)	5.30 lb/ton (2)	BACT

(1) Average concentration for the 804 Sand System emission points (EP 804SS1 and EP 804SS2) and the Cooling Shed (EP 804CS9 and EP 804CS10). The owner or operator shall demonstrate compliance with the emission limits by testing three of the eight stacks in the Cooling Shed. The facility shall test the first, third, and last stack in the production line and average the results. The result shall be used for all eight stacks, as described in Section 12 of this permit. Both stacks on the Sand System shall be tested. The concentration of all 10 stacks shall then be averaged and used to demonstrate compliance with the BACT emissions limits in this permit.

(2) Total emission limits for all emission units in the 804 Sand System permits (EP 804SS1 and EP 804SS2) and the Cooling Shed permits (EP 804CS9 and EP 804CS10). The permittee shall demonstrate compliance with the emission limits by summing the results obtained from compliance testing for the Sand System and the Cooling Shed. The two emission points from the Sand System shall be tested individually and the results shall be summed. Three of the eight emission points from the Cooling Shed shall be tested and an average value determined and used for all eight emission points. The resulting emission rates for the ten stacks shall be summed in order to verify compliance with the emission limits in this section.

Authority for Requirement: Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

Other Emission Limits:

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit See Table: D804 Cooling Shed

(1) If visible emissions are observed the owner/operator is required to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 25.0 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

Pollutant: Particulate Matter
Emission Limit: 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"
Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

Pollutant: Carbon Monoxide (CO)
Emission Limit: 520.0 lb/hr (2)
Authority for Requirement: Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

(2) This is the total emission rate for the Sand System emission points (EP 804SS1 and EP 804SS2) and the Cooling Shed emission points (EP 804CS9 and EP 804CS10). It is based on the hourly emission rates utilized in the modeling analysis which indicates emissions from the Sand System emission points (EP 804SS1 and EP 804SS2) and the Cooling Shed emission points (EP 804CS9 and EP 804CS10) will cause concentrations that are less than the applicable CO National Ambient Air Quality Standards (NAAQS).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

1. As required by §63.6(e)(1)(i), the owner or operator must at all times operate and maintain the foundry in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR, Part 63, Subpart EEEEE - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries.
2. The owner or operator will take actions to make the 804 casting line more efficient and minimize emissions, these include:
   a. The facility shall only use pressure pour system to pour metal on the 804 casting line.
   b. The facility shall implement a continual process improvement program to minimize VOC and CO emissions. This program shall include methods for evaluating materials that will minimize the amount of VOC in the core making process and reduce the amount of VOC used.
3. The VOC weight loss of the materials used in the cores processed on the 804 casting line

shall not exceed 1.22 pounds VOC per ton of core manufactured, as a weighted average over a 12 month rolling period.

Authority for Requirement: Iowa DNR Construction Permit See Table: D804 Cooling Shed

EP 804CS9 and 804CS10

4. Upon initial startup of stacks EP-804CS9 and EP-804CS10, the owner or operator may process a maximum of 67 tons per hour of metal on the 804 casting line.

Authority for Requirement: Iowa DNR Construction Permit 16-A-126-P and 16-A-127-P

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department unless otherwise stated below. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The facility shall maintain all records regarding the continual process improvement program for the 804 casting line.
2. The facility shall document if the pressure pour system is not used to pour the metal on the 804 casting line.
3. The owner or operator shall record the hourly amount of metal poured on the 804 casting line. The hourly amount may be calculated by the facility by dividing the total amount of iron used each day (calendar or production) by the hours of operation of the pouring area. If a production day, as set internally by the facility, is used as the basis, the production day may not exceed 24 hours and all iron poured must be accounted for in the given production day.
4. Any changes to the molds processed on the 804 casting line that may result in an increase to the BACT emission rates of this permit must be approved by the Department.
5. The facility shall record the VOC weight loss, in lbs of VOC per ton of core produced, of each core processed on the 804 casting line as defined in condition 6 below.
6. The permittee shall maintain the Ohio Cast Metals Association (OCMA) emission test data sheet for each core processed on the 804 casting line. If this test data is not available, such as for purchased cores or cores printed using 3-D techniques, the permittee may assume a VOC emission rate of 10.8 lbs VOC/ton of core for those cores. Processed cores using an innovative technique other than 3-D may also assume a VOC emission rate of 10.8 lbs VOC/ton of core produced, if the Department agrees that the procedure used to estimate worst-case VOC emission rates for the technique is equivalent to the OCMA test.
7. If any cores with a recorded VOC weight loss greater than 1.22 lbs VOC/ton of core are used in a month, the facility shall calculate the weighted average VOC emission rate for the calendar month, and demonstrate that that the weighted average VOC emission rate for the 804 casting line remains under the standard set in Condition 14D. If the monthly calculated weighted average is less than 1.22 lbs VOC/ton of core, a 12 month rolling total does not need to be calculated.
8. The owner or operator shall calculate the annual emissions of PM, PM_{10}, and $PM_{2.5}$, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations and maintain a record of regular operations after the change, as required in IAC 567-33.3(18)"f"(4). This information shall be retained by the owner or operator for a period of ten years after project 15-316 is completed. This calculation shall include the emissions from all casting line sources at the facility (i.e. the 801, 802 and 804 casting line emission sources, and including EP 012, EP CLRBH4, EP 109 and EP 023). "Regular operations"

shall be defined for project 15-316 as having completed all allowed construction.

9. The owner or operator shall submit a report to the department if the annual emissions, in tons per year, from project 15-316 exceed the baseline actual emissions by an amount that is "significant" as defined in IAC 567-33.3(1) for that pollutant. The baseline actual emissions are set at 87.9 tons per year for PM and PM10, and 87.5 tons per year for PM2.5.

Authority for Requirement: Iowa DNR Construction Permit See Table: D804 Cooling Shed

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table: 804CS EP

Emission Point Number	Emission Unit Number	Stack Height, (ft, from ground)	Stack Opening (inches, dia.)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
804CS9	804CS	110	128	380,000	100	Vertical Unobstructed
804CS10		110	128	380,000	100	Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permits specified in Table: 804CS EP

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 804SS1 and 804SS2

Associated Equipment

Associated Emission Unit ID Number: 804LB1-804LB2, 804PO, 804POUR, 804SC1-804SC2, 804SO1-804SO2, 804MIX1-804MIX3, 804CY1-804CY2
Emissions Control Equipment ID Number: 804BH
Emissions Control Equipment Description: Mold Line 804 Sand System Baghouse

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Emission Unit vented through this Emission Point: 804LB1-804LB2, 804PO, 804POUR, 804SC1-804SC2, 804SO1-804SO2, 804MIX1-804MIX3, 804CY1-804CY2
Emission Unit Description: 804 Sand System
Raw Material/Fuel: Metal/Sand
Rated Capacity: 67 tons/hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from these emission points shall not exceed the following specified levels.

PSD Emission Limits:

Pollutant	Limit 1	Limit 2	Reference (567 IAC)
Volatile Organic Compounds (VOC)	8.00 ppm_v (1)	2.50 lb/ton (2)	BACT
Carbon Monoxide (CO)	58.0 ppm_v (1)	5.30 lb/ton (2)	BACT

(1) Average concentration for the 804 Sand System emission points (EP 804SS1 and EP 804SS2) and the Cooling Shed emission points (EP 804CS9 and EP 804CS10), as propane. The permittee shall demonstrate compliance with the emission limits by averaging the results obtained from compliance testing for the Sand System and the Cooling Shed. These four emission points shall be tested individually per footnote (1). The concentration of all 4 stacks shall then be averaged and used to demonstrate compliance with the BACT emissions limits in this permit.

(2) Total emission limits for all emission units in the 804 Sand System permits (EP 804SS1 and EP 804SS2) and the Cooling Shed (EP 804CS9 and EP 804CS10). These four emission points shall be tested individually per footnote (1). The permittee shall demonstrate compliance with the emission limits by summing the results of the four individual stack tests together to demonstrate compliance with the BACT emission limit in this permit.

Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Other Emission Limits:

Pollutant: Opacity
Emission Limits: 40 % (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

(1) If visible emissions are observed the owner/operator shall promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Opacity
Emission Limits: 20 % (2)
Authority for Requirement: 567 IAC 23.1(4)"de"
Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

(2) As specified in 40 CFR Part 63 Subpart EEEEE, §63.7690(a)(7), for each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, the permittee must not discharge any fugitive emissions to the atmosphere from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity.

Pollutant: Particulate Matter (PM)
Emission Limits: 0.010 gr/dscf (4)
Authority for Requirement: 567 IAC 23.1(4)"de"
Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Pollutant: PM_{10}
Emission Limits: 2.0 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 500 ppm_v
Authority for Requirement: 567 IAC 23.3(3)"e"
Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Pollutant: Carbon Monoxide (CO)
Emission Limits: 520.0 lb/hr (3)
Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

(3) Total emission limits for all emission units in the 804 Sand System permits (EP 804SS1 and EP 804SS2) and the Cooling Shed (EP 804CS9 and EP 804CS10). These four emission points shall be tested individually per footnote (1). The permittee shall demonstrate compliance with the emission limits by summing the results of the four individual stack tests together to demonstrate compliance with the BACT emission limit in this permit.

Pollutant: Total Metal HAP
Emission Limits: 0.0008 gr/dscf [4]
Authority for Requirement: 567 IAC 23.1(4)"de"
Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

[4] As specified in 40 CFR Part 63, Subpart EEEEE, §63.7690(a)(5), for each pouring station at an existing iron and steel foundry, the permittee must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (i) below or, alternatively the limit for total metal HAP in paragraph (ii) of this section:
(i) 0.010 gr/dscf of PM, or
(ii) 0.0008 gr/dscf of total metal HAP.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. As specified in §63.7710(a), and required by §63.6(e)(1)(i), the owner or operator must at all times operate and maintain this foundry in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR, Part 63, Subpart EEEEE - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries.
2. As required by §63.7710(b), the owner or operator must prepare and operate at all times according to a written operation and maintenance plan for each capture and collection system and control device for an emissions source subject to an emission limit in §63.7690(a). The operation and maintenance plan must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. This operation and maintenance plan is subject to approval by the Iowa DNR, and must contain the applicable elements described in paragraphs (b)(1) through (b)(6) of section §63.7710(b).
3. The owner or operator will follow the procedures for igniting mold vent gases according to the requirements in the operation and maintenance plan required by §63.7710(b)(6).
4. As required by §63.7720(c), the owner or operator must develop a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3).
5. This line shall only be used for making green sand molds.
6. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
7. The owner or operator will take actions to make the 804 casting line more efficient and minimize emissions, these include:
   a. The facility shall only use a pressure pour system to pour metal.
   b. The facility shall implement a continual process improvement program to minimize VOC and CO emissions. This program shall include methods for evaluating materials that will minimize the amount of VOC in the core making process and reduce the amount of VOC used.
8. The owner or operator shall not process more than 67.0 tons per hour of iron (or iron alloys) for any pouring or casting operation on the 804 casting line.
9. The VOC weight loss of the materials used in the cores processed on the 804 casting line shall not exceed 1.22 pounds VOC per ton of core manufactured, as a weighted average over a 12 month rolling period.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department unless otherwise stated below. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Unless specified by a federal regulation, all records as required by this permit shall be kept on-site for a minimum of two (2) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The owner or operator must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. The plans shall be maintained for the life of the foundry or until the foundry is no longer subject to the requirements of 40 CFR, Part 63, Subpart EEEEE - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries..
2. For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must at all times monitor the relative change in PM loadings using a bag leak detection system according to the requirements in §63.7741(b).
3. For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must conduct inspections at their specified frequencies according to the requirements specified in paragraphs (c)(1) through (8) of §63.7740(c).
   (1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
   (2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
   (3) Check the compressed air supply for pulse-jet baghouses each day.
   (4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
   (5) Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.
   (6) Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or lying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
   (7) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
   (8) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.
4. For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, the owner or operator must install, operate, and maintain a bag leak detection system according to the requirements in paragraphs (b)(1) through (b)(7) of §63.7741(b).
   (1) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
   (2) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.*, using a strip chart

recorder or a data logger).

(3) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable).

(5) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the operation and maintenance plan required by §63.7710(b).

(6) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.

(7) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

5. For each baghouse, the permittee shall:

   (1) Inspect and maintain the baghouse according to the requirements of §63.7740(c)(1) through (8) and record all information needed to document conformance with these requirements; and

   (2) If the baghouse is equipped with a bag leak detection system, maintaining records of the times the bag leak detection system sounded, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

6. For each capture system and control device for an emissions source subject to an emissions limit in §63.7690(a), you must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:

   (1) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;

   (2) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;

   (3) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements;

   (4) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements; and

   (5) Igniting gases from mold vents according to the procedures in the plan required by §63.7710(b)(6). (Any instance where you fail to follow the procedures is a deviation that must be included in your semiannual compliance report.)

7. You must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. You must keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is no longer subject to

the requirements of this subpart.

8. The owner or operator shall meet all of the notification requirements as specified in 40 CFR, Part 63, Subpart EEEEE, §63.7750.
9. The owner or operator shall submit reports as required by 40 CFR 63.7751 and maintain records as required by 40 CFR 63.7752. These required records must be maintained for five years (40 CFR 63.7753(b)).
10. The owner or operator shall keep records of control equipment inspections and maintenance.
11. The facility shall maintain all records regarding the continual process improvement program for the 804 casting line.
12. The facility shall document if the pressure pour system is not used to pour the metal on the 804 casting line.
13. The owner or operator shall record the hourly amount of metal poured on the 804 casting line. The hourly amount may be calculated by the facility by dividing the total amount of iron used each day (calendar or production) by the hours of operation of the pouring area. If a production day, as set internally by the facility, is used as the basis, the production day may not exceed 24 hours and all iron poured must be accounted for in the given production day.
14. The facility shall record the VOC weight loss, in lbs of VOC per ton of core produced, of each core processed on the 804 casting line.
15. The permittee shall maintain the Ohio Cast Metals Association (OCMA) emission test data sheet for each core processed on the 804 casting line. If this test data is not available, such as for purchased cores or cores printed using 3-D techniques, the permittee may assume a VOC emission rate of 10.8 lbs VOC/ton of core for those cores. Processed cores using an innovative technique other than 3-D may also assume a VOC emission rate of 10.8 lbs VOC/ton of core produced, if the Department agrees that the procedure used to estimate worst-case VOC emission rates for the technique is equivalent to the OCMA test.
16. If any cores with a recorded VOC weight loss greater than 1.22 lbs VOC/ton of core are used in a month, the facility shall calculate the weighted average VOC emission rate for the calendar month, and demonstrate that that the weighted average VOC emission rate for the 804 casting line remains under the standard set in Condition 14I. If the monthly calculated weighted average is less than 1.22 lbs VOC/ton of core, a 12 month rolling total does not need to be calculated.
17. The owner or operator shall calculate the annual emissions of PM, PM_{10}, and $PM_{2.5}$, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations and maintain a record of regular operations after the change, as required in IAC 567-33.3(18)"f"(4). This information shall be retained by the owner or operator for a period of ten years after project 15-316 is completed. This calculation shall include the emissions from all casting line sources at the facility (i.e. the 801, 802 and 804 casting line emission sources, and including EP 012, EP CLRBH4, EP 109 and EP 023). "Regular operations" shall be defined for project 15-316 as having completed all allowed construction.
18. The facility shall notify the Department in writing within 30 days after completing all allowed construction under project 15-316.
19. The owner or operator shall submit a report to the department if the annual emissions, in tons per year, from project 15-316 exceed the baseline actual emissions by an amount that is "significant" as defined in IAC 567-33.3(1) for that pollutant. The baseline actual emissions are set at 87.9 tons per year for PM and PM10, and 87.5 tons per year for PM2.5.

Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 110
Stack Opening, (inches, dia.): 112
Exhaust Flow Rate (acfm): 270,000
Exhaust Temperature (°F): 120
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Compliance Demonstration(s) and Performance Testing

Pollutant	Initial	Subsequent	Methodology	Frequency
PM (federal)	Yes[1]	Yes[2]	Performance Testing [3]	See footnote (2)
Opacity	Yes[4] [5] [1]	Yes[6]	Performance Testing[3]	See footnote (6)
Total Metal HAP	Yes[1]	Yes [2]	Performance Testing[3]	See footnote (2)

(1) in 40 CFR Part 63, Subpart EEEEE, §63.7730.
(2) As specified in 40 CFR Part 63, Subpart EEEEE, §637731, the permittee must conduct subsequent As specified performance tests to demonstrate compliance with the PM or total metal HAP emissions limitations in §63.7690 no less frequently than every 5 years and each time you elect to change an operating limit or to comply with a different alternative emissions limit, if applicable.
(3) Test shall be conducted according to the methods specified in 40 CFR Part 63, Subpart EEEEE, §63.7732.
(4) Initial performance testing was required in projects 11-131 and 11-284, which was not completed at the time of this modification (project 11-468).
(5) Stack tests shall be performed simultaneously for EP 804SS1 and EP 804SS2.
(6) As specified in 40 CFR Part 63, Subpart EEEEE, §63.7731, the permittee must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.7690(a)(7) no less frequently than once every 6 months.

Authority for Requirement: Iowa DNR Construction Permit 11-A-437-P3 and 11-A-438-P3

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 804MT1

Associated Equipment

Associated Emission Unit ID Number: 804MT1
Emissions Control Equipment ID Number: 804MTBH
Emissions Control Equipment Description: D804 Magnesium Treatment Baghouse

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Emission Unit vented through this Emission Point: 804MT1
Emission Unit Description: 804 Magnesium Treatment
Raw Material/Fuel: Metal
Rated Capacity: 67 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from these emission points shall not exceed the following specified levels.

Pollutant: Opacity
Emission Limits: 40 % (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 11-A-606-S1

(1) If visible emissions are observed the owner/operator is required to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limits: 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 11-A-606-S1

Pollutant: PM_{10}
Emission Limits: 0.45 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-606-S1

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:
1. The differential pressure drop across the baghouse shall be maintained according to operation and maintenance plan.
2. The owner or operator shall develop an operating and maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department – unless otherwise stated below. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
2. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per calendar day. This requirement shall not apply on the days that the baghouse is not in operation.
3. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the control equipment.
4. The owner or operator shall calculate the annual emissions of PM, PM_{10}, and $PM_{2.5}$, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations and maintain a record of regular operations after the change, as required in IAC 567-33.3(18)"f"(4). This information shall be retained by the owner or operator for a period of ten years after construction permit project 15-316 is completed. This calculation shall include the emissions from all mold line sources at the facility (i.e., the 801, 802 and 804 sand and mold line emission sources, and including EP 012, EP CLRBH4, EP 109 and EP 023). "Regular operations" shall be defined for project 15-316 as having completed all allowed construction.
5. The facility shall notify the Department in writing within 30 days after completing all allowed construction under project 15-316.
6. The owner or operator shall submit a report to the department if the annual emissions, in tons per year, from project 15-316 exceed the baseline actual emissions by an amount that is "significant" as defined in IAC 567-33.3(1) for that pollutant. The baseline actual emissions are set at 87.9 tons per year for PM and PM_{10}, and 87.5 tons per year for $PM_{2.5}$.

Authority for Requirement: Iowa DNR Construction Permit 11-A-606-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 80
Stack Opening, (inches, dia.): 37.2
Exhaust Flow Rate (acfm): 30,000
Exhaust Temperature (°F): 90
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 11-A-606-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE- 804MTBH Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: SDSABH

Associated Equipment

Associated Emission Unit ID Number: P-162
Emissions Control Equipment ID Number: CE SDSABH
Emissions Control Equipment Description: New Sand Delivery and Storage Baghouse

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Emission Unit vented through this Emission Point: P-162
Emission Unit Description: D775 Sand Delivery Storage Area
Raw Material/Fuel: Sand
Rated Capacity: 27.79 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 72-A-040-S3

(1) If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: PM_{10}
Emission Limit: 0.65 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 72-A-040-S3

Pollutant: Particulate Matter
Emission Limit: 0.1gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 72-A-040-S3

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:
1. The emissions control system must be in operation at all times that the production equipment is in operation.

Authority for Requirement: Iowa DNR Construction Permit 72-A-040-S3

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 57
Stack Opening, (inches, dia.): 24
Exhaust Flow Rate (acfm): 12,600
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 72-A-040-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE 162 Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 248

Associated Equipment

Associated Emission Unit ID Number: See Table: Sand Supply/Reclaim Shed Below
Emissions Control Equipment ID Number: See Table: Sand Supply/Reclaim Shed Below
Emissions Control Equipment Description: See Table: Sand Supply/Reclaim Shed Below

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Table: Sand Supply/Reclaim Shed

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (tons/hr)	Control Equipment
EP 248	808RS	West Dock Waste Sand Loadout	Sand	150	CE-808 Sand Supply/Reclaim Baghouse
	808SS	West Dock New Sand Unloading Station		67	

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 97-A-139-S2

(1) Visible emissions will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 0.81 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 97-A-139-S2

Pollutant: Particulate Matter
Emission Limit: 5.4 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 97-A-139-S2

Pollutant: Particulate Matter
Emission Limit: 0.05 gr/scf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 97-A-139-S2

Operating Requirements with Associated Monitoring and Recordkeeping:
Unless specified by a federal regulation, all records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
2. The owner or operator shall keep records of control equipment inspections and maintenance.
3. The owner or operator shall maintain the pressure drop of the control equipment between 3 and 7 inches of water during operation.
4. The owner or operator shall install an alarm system for a pressure drop outside of normal operating conditions. A record shall be kept documenting the dates of any alarms and the actions taken to resolve the situation.

Authority for Requirement: Iowa DNR Construction Permit 97-A-139-S2

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 58
Stack Opening, (inches): 52
Exhaust Flow Rate (scfm): 60,600
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 97-A-139-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:
Pollutant(s) – Particulate Matter (PM) – State
Stack Test to be Completed by – December 31, 2019
Test Method – 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 22.108(3)

Pollutant –Particulate Matter <10µm (PM_{10})
Stack Test to be Completed by – December 31, 2019
Test Method – 40 CFR 51, Appendix M, 201A with 202[(1)]
[(1)] or an approved alternative
Authority for Requirement - 567 IAC 22.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE ML801BHA Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 069, 071, 072

Associated Equipment

Associated Emission Unit ID Number: P-069, P-071, P-072

Emission Unit Description

Table: Core Ovens 1

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (MMBtu/hr)	Construction Permit #
069	P-069	D787 OSI Core Oven	Natural Gas	2.0	01-A-946
071	P-071	D785 Core Oven East		2.0	01-A-948
072	P-072	D785 OSI Core Oven West		2.0	01-A-949

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permits: See Table: Core Ovens 1

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permits: See Table: Core Ovens 1

Pollutant: PM_{10}
Emission Limit: 0.229 lb/hr
Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 1

Pollutant: Sulfur Oxides (SO_x)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"
Iowa DNR Construction Permits: See Table: Core Ovens 1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Emission Point Number	Emission Unit Number	Stack Height, (ft, from ground)	Stack Opening (inches, dia.)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
069	P-069	47.8	15	1500	230	Unobstructed Vertical
071	P-071	44.0	15	1500	230	Unobstructed Vertical
072	P-072	44.0	15	1500	220	Unobstructed Vertical

Authority for Requirement: Iowa DNR Construction Permits See Table: Core Ovens 1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 073 and EP 074

Associated Equipment

Associated Emission Unit ID Number: P-073 and P-074

Emission Unit Description

Table: Core Ovens 2

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (MMBtu/hr)	Construction Permit #
073	P-073	Core Oven	Natural Gas	3.0(1)	12-A-501-P1
074	P-074				12-A-502-P1

(1) Startup maximum capacity is 6.0 MMBtu/hr of natural gas.

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits:

Pollutant	Limit		Reference (567 IAC)
Particulate Matter (PM)	0.15 lb/hr		BACT
PM_{10}	0.15 lb/hr		BACT
$PM_{2.5}$	0.09 lb/hr		BACT
Opacity	0%		BACT
Carbon Monoxide (CO)	0.08 lb/MMBtu	2.16 TPY	BACT
Volatile Organic Compounds	0.0055 lb/MMBtu	0.14 TPY	BACT

Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 2

Other Emission Limits:

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permits: See Table: Core Ovens 2

(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permits: See Table: Core Ovens 2

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 0.59 lb/hr
Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 2

Pollutant: Carbon Monoxide (CO)
Emission Limit: 0.49 lb/hr
Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. The owner or operator will take actions to make the phenolic urethane cold box (PUCB) line more efficient and minimize emissions, these include:
   a. The facility shall implement a continual process improvement program to minimize VOC and CO emissions. This program shall include methods for evaluating materials that will minimize the amount of VOC in the core making process and reduce the amount of VOC used.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The facility shall maintain all records regarding the continual process improvement program for the PUCB core making line.

Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Emission Point Number	**Emission Unit Number**	**Stack Height,** (ft, from ground)	**Stack Opening** (inches, dia.)	**Exhaust Flowrate** (scfm)	**Exhaust Temp.** (°F)	**Discharge Style**
073	P-073	47	18	4500	230	Vertical Unobstructed
074	P-074	47	18	4500	230	Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permits: See Table: Core Ovens 2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may

vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 075

Associated Equipment

Associated Emission Unit ID Number: P-075
Emissions Control Equipment ID Number: CE 075
Emissions Control Equipment Description: Sand Handling Baghouse

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Emission Unit vented through this Emission Point: P-075
Emission Unit Description: Sand Handling System
Raw Material/Fuel: Sand
Rated Capacity: 23.5 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits:

Pollutant	Limit	Reference (567 IAC)
Particulate Matter (PM)	0.004 gr/dscf	BACT
PM_{10}	0.004 gr/dscf	BACT
$PM_{2.5}$	0.004 gr/dscf	BACT
Opacity	0%	BACT

Authority for Requirement: Iowa DNR Construction Permit 13-A-190-P1

Other Emission Limits:

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 13-A-190-P1

(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 0.60 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 13-A-190-P1

Pollutant: Particulate Matter
Emission Limit: 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 13-A-190-P1

Pollutant: $PM_{2.5}$
Emission Limit: 0.45 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 13-A-190-P1

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. The pressure drop for the baghouse (CE75) shall be maintained between 1.0 and 8.0 inches of H_2O.
2. An alarm shall be installed which will alert the operator whenever the pressure drop varies outside the allowable range.
3. The owner or operator shall operate, inspect and maintain the control equipment according to the manufacturer's specifications.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall properly operate and maintain equipment to continuously monitor the pressure drop of the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual or per a written facility-specific operation and maintenance plan.
2. The owner or operator shall collect the pressure drop for the baghouse, in inches of H_2O, a minimum of once per 15 minutes, and record the average per 8-hour period. This requirement shall not apply for periods when the baghouse or the equipment that the baghouse controls is not in operation.
3. Measured operating levels outside the permitted operating range will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the period of excursion. If the period of excursion continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
4. The owner or operator shall maintain a record of all inspections, maintenance activities, and any actions resulting from response to the alarm system or to inspection/maintenance of the control equipment and the monitoring devices.

Authority for Requirement: Iowa DNR Construction Permit 13-A-190-P1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 70
Stack Opening, (inches, dia.): 28
Exhaust Flow Rate (scfm): 11,500
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 13-A-190-P1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 076

Associated Equipment

Associated Emission Unit ID Number: P-076
Emissions Control Equipment ID Number: CE 076
Emissions Control Equipment Description: Sand Handling Baghouse

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Emission Unit vented through this Emission Point: P-076
Emission Unit Description: Sand Handling System
Raw Material/Fuel: Sand
Rated Capacity: 33 tons per hour

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits

Pollutant	Limit	Reference (567 IAC)
Particulate Matter (PM)	0.004 gr/dscf	BACT
PM_{10}	0.004 gr/dscf	BACT
$PM_{2.5}$	0.004 gr/dscf	BACT
Opacity	0%	BACT

Authority for Requirement: Iowa DNR Construction Permit 13-A-191-P

Other Emission Limits

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 13-A-191-P

(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 0.75 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 13-A-191-P

Pollutant: Particulate Matter
Emission Limit: 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 13-A-191-P

Pollutant: $PM_{2.5}$
Emission Limit: 0.56 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 13-A-191-P

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. The pressure drop for the baghouse (CE76) shall be maintained between 1.0 and 8.0 inches of H_2O.
2. An alarm shall be installed which will alert the operator whenever the pressure drop varies outside the allowable range.
3. The owner or operator shall operate, inspect and maintain the control equipment according to the manufacturer's specifications.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall properly operate and maintain equipment to continuously monitor the pressure drop of the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual or per a written facility-specific operation and maintenance plan.
2. The owner or operator shall collect and the pressure drop for the baghouse, in inches of H_2O, a minimum of once per 15 minutes, and record the average per 8-hour period. This requirement shall not apply on the days that the baghouse or the equipment that the baghouse controls is not in operation.
3. Measured operating levels outside the permitted operating range will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the period of excursion. If the period of excursion continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
4. The owner or operator shall maintain a record of all inspections, maintenance activities, and any actions resulting from response to the alarm system or to inspection/maintenance of the control equipment and the monitoring devices.

Authority for Requirement: Iowa DNR Construction Permit 13-A-191-P

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 70
Stack Opening, (inches, dia.): 30
Exhaust Flow Rate (scfm): 17,500
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 13-A-191-P

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 082 and EP 083

Associated Equipment

Associated Emission Unit ID Number: See Table: PUCB Line
Emissions Control Equipment ID Number: See Table: PUCB Line
Emissions Control Equipment Description: See Table: PUCB Line

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Table: PUCB Line

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity	Control Equipment	Construction Permit #
082	P-082	Phenolic Urethane Cold Box Core Making Line	DMEA Catalyst/ Sand/Resin	Sand: 30,600 tons/hr Resin: 459 lb/hr Catalyst: 220 gallons	CE 082: Packed Bed Scrubbers	95-A-002-P6
083				Sand: 60,000 tons/hr Resin: 900 lb/hr Catalyst: 220 gallons	CE 083: Packed Bed Scrubbers	13-A-192-P2

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits

Emission Point Number	Emission Unit Number	Particulate Matter (PM)	PM_{10}	$PM_{2.5}$	Opacity	Volatile Organic Compounds	Reference (567 IAC)
082	P-082	0.6 lb/hr	0.2 lb/hr	0.10 lb/hr	0%	99% Reduction or 1 ppmv	BACT
		0.003 gr/scf	0.001 gr/scf	0.0005 gr/scf		250 TPY(1)	
083		0.6 lb/hr	0.2 lb/hr	0.10 lb/hr	0%	99% Reduction or 1 ppmv	BACT
		0.004 gr/scf	0.001 gr/scf	0.0006 gr/scf		250 TPY(1)	

(1) Standard includes fugitive emissions, and is established for the core making processes (EU P-082, EP-83 and EU P-91). See Operating Limits section for details. Note: This does not include VOC emissions due to natural gas combustion in the core ovens.

Authority for Requirement: Iowa DNR Construction Permit See Table: PUCB Line

Other Emission Limits

Pollutant: Opacity
Emission Limit: 40% [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit See Table: PUCB Line

[(1)] An exceedance of the indicator opacity of *"no visible emissions"* will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit See Table: PUCB Line

Pollutant: Single HAP
Emission Limit: 99% Reduction or 1 ppmv[(2)]
Authority for Requirement: 567 IAC 23.1(4)"de"
Iowa DNR Construction Permit See Table: PUCB Line

[(2)] Applies only if the facility starts using triethylamine (TEA) in the core making process.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

Operating limits for this emission unit shall be:

1. The exhaust from the phenolic urethane cold box (PUCB) core making operation shall be connected to a scrubber(s) to control catalyst emissions whenever in operation.
2. Total VOC emissions from all core making operations at this facility shall not exceed 250.0 tons per daily rolling 365-day period. All VOC-containing materials used in the core making operations shall be included in the emissions calculations.
3. The scrubber flowrate for scrubber, CE082, shall be maintained at or above the minimum flowrate of 200 gallons per minute.
4. The scrubbant pH for CE082 shall not exceed 4.5 at any time.
5. The pressure drop differential for scrubber CE082, shall be maintained within a range of 0.1 to 6 inches of water
6. An alarm shall be installed which will alert the operator should any of the required pressure drop differentials, liquid flowrate, or pH level limits for the scrubber go out of compliance.
7. The owner or operator will take actions to make the PUCB line more efficient and minimize emissions, these include:
   a. The facility shall maximize the use of the enclosed core machines, (Fritz Hansberg H350 LA51, Fritz Hansberg H350 LA52 and/or Laempe LFB25's) in preference to the other core machines in the line to the extent practicable.
   b. The facility shall implement a continual process improvement program to minimize VOC and CO emissions. This program shall include methods for evaluating materials that will minimize the amount of VOC in the core making process and reduce the amount of VOC used.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall maintain the following daily records:
   a. The identification of each VOC-containing material used in the core making operations.
   b. The VOC emission factors used for each material used in the core making operations.
   c. The amount of each VOC-containing material used in the core making operations. For the purposes of calculating emissions, all VOC may be considered emitted on the day the materials are delivered to the facility or to the production line.
2. The owner or operator shall maintain the following monthly records:
   a. The identification of each VOC-containing material used in the core making operations.
   b. The VOC emission factors used for each material used in the core making operations.
   c. The amount of each VOC-containing material used in the core making operations. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
   d. The amount of VOC emissions from the core making operations, in tons.
   e. The 12-month rolling total of the amount of VOC emissions from the core making operations, in tons.
3. If the 12-month rolling total of the VOC emissions exceeds 200.0 tons, the owner or operator shall immediately begin keeping the following daily records:
   a. The amount of VOC emissions from the core making operations, in tons.
   b. The 365-day rolling total of the amount of VOC emissions from the core making operations, in tons.
   c. Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from the core making operations drops below 200.0 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per Operating Limit condition 3 above. If the emissions once again exceed 200.0 tons, daily recordkeeping will be required per Operating Limit condition 3 above.
4. The owner or operator may take credit for any waste catalyst VOC shipped off-site. The owner or operator shall record the amount of the waste shipped off-site with each shipment, and analyze the catalyst content of the waste for each shipment. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that shipment. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
5. Retain Material Safety Data Sheets (MSDS) for all VOC containing materials used in the core making operations.
6. Record the amount of catalyst used in all PUCB core making operations, in pounds. Calculate and record monthly and 12 month rolling totals.
7. Maintain records of any maintenance performed on the scrubber.
8. Record the amount of catalyst recovered from the scrubber and shipped off-site on a rolling 12-month basis.
9. The owner or operator shall properly operate and maintain equipment to continuously monitor the scrubbant flowrate for each scrubber and trigger an operator alarm whenever the flowrate

is below the minimum specified flowrate. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan. This requirement shall not apply on the days the equipment the scrubber controls is not in operation. The owner or operator shall record each time the alarm is triggered, and the time and methods taken to get the control equipment back into proper operations.

10. The owner or operator shall properly operate and maintain equipment to periodically monitor the scrubbant pH for each scrubber and trigger an operator alarm whenever the pH is above the maximum specified pH. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan. This requirement shall not apply on the days the equipment the scrubber controls is not in operation. The owner or operator shall record each time the alarm is triggered, and the time and methods taken to get the control equipment back into proper operations.
11. The owner or operator shall properly operate and maintain equipment to continuously monitor the scrubber pressure drop differential for each scrubber and trigger an operator alarm whenever the pressure drop differential is outside the maximum specified pressure differential range. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan. This requirement shall not apply on the days the equipment the scrubber controls is not in operation. The owner or operator shall record each time the alarm is triggered, and the time and methods taken to get the control equipment back into proper operations.
12. The facility shall maintain all records regarding the continual process improvement program for the PUCB core making line.

Authority for Requirement: Iowa DNR Construction Permit See Table: PUCB Line

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Emission Point Number	Emission Unit Number	Stack Height (feet from ground)	Stack Opening (inches, dia)	Exhaust Flow Rate (scfm)	Exhaust Temp. (°F)	Discharge Style
082	P-082	60	42	19,600	Ambient	Vertical Unobstructed
083		60	48	25,000	Ambient	Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit See Table: PUCB Line

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE 082 and CE 083 Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 804CR (Internally vented)

Associated Equipment

Associated Emission Unit ID Numbers: EU 804BC1, 804BC2, 804SBB1, 804SBB2, 804SBB3, 804SBB4
Emissions Control Equipment ID Number: CE 804CR
Emissions Control Equipment Description: 804 Cleaning Room Baghouse

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Emission Unit Description

Table: 804CR

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (carries/hr)
804CR	804BC1	804 Blast Cabinet 1	Metal	88
	804BC2	804 Blast Cabinet 2		88
	804SBB1 804SBB2 804SBB3 804SBB4	804 Spot Blast Booth 1-4		30

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 11-A-597-S1

(1) If visible emissions are observed the owner/operator is required to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 3.90 lb/hr, 0.05 gr/dscf

Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 11-A-597-S1

Pollutant: PM_{10}
Emission Limit: 0.4 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 11-A-597-S1

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. The differential pressure drop across the baghouse shall be maintained according to the operation and maintenance plan.
2. The owner or operator shall develop an operating and maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Reporting and Record Keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
2. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per calendar day. This requirement shall not apply on the days that the baghouse is not in operation.
3. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the control equipment.
4. The owner or operator shall calculate the annual emissions of PM, PM_{10}, and $PM_{2.5}$, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations and maintain a record of regular operations after the change, as required in IAC 567-33.3(18)"f"(4). This information shall be retained by the owner or operator for a period of ten years after project 15-316 is completed. This calculation shall include the emissions from all casting line sources at the facility (i.e., the 801, 802 and 804 sand and mold line emission sources, and including EP 012, EP CLRBH4, EP 109 and EP 023). "Regular operations" shall be defined for project 15-316 as having completed all allowed construction.
5. The facility shall notify the Department in writing within 30 days after completing all allowed construction under project 15-316.
6. The owner or operator shall submit a report to the department if the annual emissions, in tons per year, from project 15-316 exceed the baseline actual emissions by an amount that is "significant" as defined in IAC 567-33.3(1) for that pollutant. The baseline actual emissions are set at 87.9 tons per year for PM and PM10, and 87.5 tons per year for PM2.5.

Authority for Requirement: Iowa DNR Construction Permit 11-A-597-S1

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE 804CR Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP CLRBH-4

Associated Equipment

Associated Emission Unit ID Numbers: EU P-009, P-010, P-011A, P-017
Emissions Control Equipment ID Number: CE CLRBH-4
Emissions Control Equipment Description: Blast Cabinet Baghouse

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Emission Unit Description

Table: CLRBH-4

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (carries/hr)
CLRBH-4	P-009	D850 Primary Blast Cabinet	Metal	82
	P-010	D850 Reblast and Core Knockout Cabinet		82
	P-011A	D850 Spotblast		82
	P-017	D853 Primary Blast Cabinet		72

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 09-A-325-S1

(1) An exceedance of the indicator opacity of "No Visible Emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 14.7 lb/hr, 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)
Iowa DNR Construction Permit 09-A-325-S1

Pollutant: PM_{10}
Emission Limit: 12.4 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 09-A-325-S1

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:

1. The owner/operator shall develop a preventative maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
2. The owner/operator shall develop a site-specific monitoring plan for the bag leak detection system. The bag leak detection system that operates on the triboelectric effect, the monitoring plan must be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA–454/R–98–015). This baghouse monitoring plan is subject to approval by the Administrator. The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan must address all of the items identified in the following paragraphs:
   a. Installation of the bag leak detection system.
   b. Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.
   c. Operation of the bag leak detection system including quality assurance procedures.
   d. How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list.
   e. How the bag leak detection system output will be recorded and stored.
3. The owner/operator shall develop a corrective action plan for the baghouse. The plan must include the requirement that, in the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions taken may include, but are not limited to:
   a. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
   b. Sealing off defective bags or filter media.
   c. Replacing defective bags or filter media or otherwise repairing the control device.
   d. Sealing off a defective baghouse compartment.
   e. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
   f. Making process changes.
   g. Shutting down the process producing the PM emissions.
4. For purposes of Project 09-153 staying a synthetic minor project for Prevention of Significant Deterioration (PSD), the owner or operator shall have the following limits for a period five (5) years from May 12, 2009:
   a. The project includes a change in the method of operation that affects the emissions from the following emission units:

Table 1. Emission Units Required to Determine Future Actual Emissions

Emission Point	Emission Unit
P-009	D853 Primary Blast Cabinet
P-010	D850 Reblast and Core Knockout cabinet
P-011A	850 Spotblast
P-017	Primary Blast Cabinet

b. The baseline actual emissions for the project are listed in Table 1, below. The baseline actual emissions shall remain unchanged throughout the five (5) year period.

Table 2. Baseline Actual Emissions (tpy)

PM/PM10
3.92

c. The owner or operator shall determine the actual emissions for the project by summing the emissions from the emission units listed in Table 1 each month.
d. Actual emissions minus the baseline actual emissions from the project shall not exceed the PSD significant levels, on a calendar year basis, for the regulated pollutants listed in Table 2 and Table 3, below.

Table 3. PSD Significant Levels (tpy)

PM/PM10
24.4 / 14.4

If the emission increases from the project commencing on the date of startup, do not exceed the PSD significance levels, these limits shall no longer apply five (5) years after the resumption of regular operations. If these limits are exceeded prior to the five year expiration date, the owner or operator shall submit a report pursuant to 567 IAC 33.3(18)"f"(7).

Reporting and Record Keeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Maintain a maintenance log regarding the baghouse.
2. Maintain a corrective action log regarding all corrective actions taken regarding the baghouse.

Authority for Requirement: Iowa DNR Construction Permit 09-A-325-S1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from ground): 80.2
Stack Opening, (inches, dia.): 104
Exhaust Flow Rate (scfm): 222,412
Exhaust Temperature (°F): 100
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 09-A-325-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant(s) – Particulate Matter (PM) – State
Stack Test to be Completed by – December 31, 2017
Test Method – 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 22.108(3)

Pollutant –Particulate Matter <10µm (PM_{10})
Stack Test to be Completed by – December 31, 2017
Test Method – 40 CFR 51, Appendix M, 201A with 202[(1)]
[(1)] or an approved alternative
Authority for Requirement - 567 IAC 22.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE CLRBH-4 Baghouse

See Section IV, Page 90: Compliance Assurance Monitoring (CAM)

Emission Point ID Number: EP 091 (Internally vented)

Associated Equipment

Associated Emission Unit ID Number: P-091

Emission Unit vented through this Emission Point: P-091
Emission Unit Description: Mold Line-Phenolic Urethane No-Bake Core Making
Raw Material/Fuel: Resin
Rated Capacity: 24.43 lb/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

PSD Emission Limits

Pollutant	Limit	Reference (567 IAC)
Volatile Organic Compounds	250 TPY	BACT

Authority for Requirement: Iowa DNR Construction Permit 95-A-005-P4

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating limits for this emission unit shall be:
1. Total VOC emissions from all core making operations at this facility shall not exceed 250.0 tons per daily rolling 365-day period. All VOC-containing materials used in the core making operations shall be included in the emissions calculations.
2. The owner or operator will take actions to make the line more efficient and minimize emissions, these include:
   a. The facility shall implement a continual process improvement program to minimize VOC and CO emissions. This program shall include methods for evaluating materials that will minimize the amount of VOC in the core making process and reduce the amount of VOC used.

Reporting and Record Keeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The owner or operator shall maintain the following daily records:
   a. The identification of each VOC-containing material used in the core making operations.

b. The VOC emission factors used for each material used in the core making operations.
c. The amount of each VOC-containing material used in the core making operations. For the purposes of calculating emissions, all VOC may be considered emitted on the day the materials are delivered to the facility or to the production line.

2. The owner or operator shall maintain the following monthly records:
   a. The identification of each VOC-containing material used in the core making operations.
   b. The VOC emission factors used for each material used in the core making operations.
   c. The amount of each VOC-containing material used in the core making operations. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
   d. The amount of VOC emissions from the core making operations, in tons.
   e. The 12-month rolling total of the amount of VOC emissions from the core making operations, in tons.
3. If the 12-month rolling total of the VOC emissions exceeds 200.0 tons, the owner or operator shall immediately begin keeping the following daily records:
   a. The amount of VOC emissions from the core making operations, in tons.
   b. The 365-day rolling total of the amount of VOC emissions from the core making operations, in tons.

   Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from the core making operations drops below 200.0 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per Section 15.C of this permit. If the emissions once again exceed 200.0 tons, daily recordkeeping will be required per Section 15.C of this permit.
4. The owner or operator may take credit for any waste VOC shipped off-site. The owner or operator shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
5. Retain Material Safety Data Sheets (MSDS) for all VOC containing materials used in the core making operations.
6. The facility shall maintain all records regarding the continual process improvement program for the core making line.

Authority for Requirement: Iowa DNR Construction Permit 95-A-005-P4

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP 301

Associated Equipment

Associated Emission Unit ID Number: P-301

Emission Unit vented through this Emission Point: P-301
Emission Unit Description: Jobbing Floor Pouring, Cooling, and Shakeout
Raw Material/Fuel: Resin
Rated Capacity: 24.43 lb/hr

Applicable Requirements

Emission Limits For Internally Vented Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Emission Limits For Fugitive Sources (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from each emission point identified in Table Internally Vented & Fugitives shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

IV. Compliance Assurance Monitoring (CAM)

Facility Name: John Deere Foundry Waterloo
Permit Number: 02-TV-012R2-M001

CAM Plan for Baghouse-Controlled Sources

Table CAM-BH1

Emission Point Number	Emission Unit Number	Emission Unit Description	Control Equipment Number	IDNR Construction Permit Number
AlloyBH	P-120B-IF	Alloy Addition System	AlloyBH	99-A-349
MDDBH1	MDD	Melt Didion Drum Sand Separator	MDDBH1	05-A-422
MDDBH2	MDD		MDDBH2	05-A-423
249	P-248	Mold Line 801 and Shakeout Venting	ML801BHB	97-A-138-S2
IBH1E	P-031	Mold Line 802-Misc. Cast	IBH1E	77-A-117-S5
IBH2	P-031		IBH2	77-A-118-S5
IBH3W	P-031		IBH3W	77-A-119-S5
IIBH1E	P-034	Mold Line 802-Misc. Cast	IIBH1E	77-A-120-S6
IIBH2	P-034		IIBH2	77-A-121-S5
IIBH3	P-034		IIBH3	77-A-122-S5
IIBH4W	P-034		IIBH4W	77-A-123-S5
804MT1	804MT1	804 Magnesium Treatment	804MTBH	11-A-606-S1
SDSABH	P-162	New Sand Delivery and Storage	162	72-A-040-S3
248	808RS	808 Reclaim Shed	248	97-A-139-S2
	808SS	808 Sand Supply		
804CR	804BC1	Mold Line 804 Cleaning	804CR	11-A-597-S1
	804BC2			
	804SBB1			
	804SBB2			
	804SBB3			
	804SBB4			
CLRBH-4	P-009	Cleaning Cabinets	CLRBH-4	09-A-325-S1
	P-010			
	P-011A			
	P-017			

Pollutant Controlled: Opacity, Particulate Matter (PM), PM-10, Total Metal HAP

Applicable Requirements
See Iowa DNR Construction Permits listed in Table CAM-BH1

Monitoring Approach

General Monitoring Guidelines

- CAM involves the observation of control equipment compliance indicators, such as visible emissions and pressure drop. This plan defines acceptable ranges for these indicators. CAM also includes control equipment maintenance and inspections. Maintenance and inspections that will facilitate consistent control equipment operations are identified in this plan.
- Monitoring is not required during periods of time greater than one day in which the source does not operate.
- If weather prevents visible emission monitoring, the observer will note the weather conditions on the form used to record monitoring. If an observation is necessary to meet the required weekly monitoring, at least three attempts will be made to retake the observation throughout the day. If unsuccessful that day due to weather, an observation will be made the next day the weather permits.
- If light conditions prevent visible emission monitoring, the observer will note the light conditions and time of day on the form used to record monitoring. Under this circumstance, pressure readings will be made in place of visible observations of opacity.

Excursion from Compliance Indicators

- An excursion occurs when an observed compliance indicator is outside of its defined acceptable indicator range. An excursion does not necessarily indicate a deviation or violation of applicable permit terms, conditions, and/or requirements.
- John Deere Foundry Waterloo will take corrective action in accordance with the severity of the excursion. Corrective actions will begin as soon as possible, but no later than eight hours from the observation of the excursion. (Abnormal conditions discovered through equipment inspection and maintenance also require implementation of remediation within eight hours.)
- Corrective action will result in one of the following:
    - If corrective actions return the process and control equipment operations to normal, the excursion does not result in a monitoring deviation.
    - If corrective actions do not correct the excursion or no corrective action is taken, then a monitoring deviation results.
- If corrective actions do not return the compliance indicator to its defined acceptable indicator range, John Deere Foundry Waterloo will perform the following follow-up actions, *as applicable*:
    - Continue corrective actions.
    - Promptly orally report the excursion to the IDNR central office (whether or not excursion from compliance indicator range is believed to have caused excess emission).
    - Promptly verbally report the indicator opacity exceedance, file a written indicator opacity exceedance report to both field office and central office (Compliance Unit) of IDNR.
    - Promptly verbally report excess emissions to field office of IDNR (if due to other than startup, shutdown, or cleaning); within seven days of the excess emissions, file a written excess emissions report with both the field office and central office (Compliance Unit) of IDNR.
    - Conduct source testing within 90 days of the excursion to demonstrate compliance.
        - If the test demonstrates compliance with the emission limit, John Deere Foundry Waterloo will determine new indicator ranges for monitoring.

- If the test demonstrates noncompliance with the emission limit, John Deere Foundry Waterloo will, within 60 days, propose a schedule to implement corrective action to bring the source into compliance and conduct source testing to demonstrate compliance.

- Report monitoring or other deviations (operating conditions, emissions limits, or reporting requirements) in IDNR semi-annual monitoring and annual compliance certification reports.

Compliance Indicator Ranges

Visible Emissions: See Iowa DNR Construction Permits listed in Table CAM-BH2
Differential Pressure: See Table CAM-BH2

Table CAM-BH2

Emission Point Number	Emission Unit Number	Control Equipment Number	Differential Pressure Acceptable Indicator Range (1)	Type of Electronic Stack Emission Sensor(2)	Indicator Opacity (3)	IDNR Construction Permit Number
AlloyBH	P-120B-IF	AlloyBH	4"-6" W.C.	CPM 750	N.V.E.	99-A-349
MDDBH1	MDD	MDDBH1	1"-5" W.C.	CPM 750	N.V.E.	05-A-422
MDDBH2	MDD	MDDBH2	1"-5" W.C.	CPM 750	N.V.E.	05-A-423
249	P-248	ML801BHB	4"-6.5" W.C.	CPM 750	N.V.E.	97-A-138-S2
IBH1E	P-031	IBH1E	2"-6" W.C.	Triboguard	N.V.E.	77-A-117-S6
IBH2		IBH2	2"-6" W.C.	Triboguard	N.V.E.	77-A-118-S6
IBH3W		IBH3W	2"-6" W.C.	Triboguard	N.V.E.	77-A-119-S6
IIBH1E	P-034	IIBH1E	2"-6" W.C.	Triboguard	N.V.E.	77-A-120-S7
IIBH2		IIBH2	2"-6" W.C.	Triboguard	N.V.E.	77-A-121-S6
IIBH3		IIBH3	2"-6" W.C.	Triboguard	N.V.E.	77-A-122-S6
IIBH4W		IIBH4W	2"-6" W.C.	Triboguard	N.V.E.	77-A-123-S6
804MT1	804MT1	804MTBH	2"-10" W.C.	Triboguard	N.V.E.	11-A-606-S1
SDSABH	P-162	162	4"-6" W.C.	Triboguard	N.V.E.	72-A-040-S3
248	808RS 808SS	248	3.5"-6.5" W.C.	CPM 750	N.V.E.	97-A-139-S2
804CR	804BC1 804BC2 804SBB1 804SBB2 804SBB3 804SBB4	804CR	4"-10" W.C.	CPM750	N.V.E.	11-A-597-S1
CLRBH-4	P-009 P-010 P-011A P-017	CLRBH-4	4"-10" W.C.	CPM 750	N.V.E.	09-A-325-S1

(1) Differential Pressure Acceptable Indicator Range is measured in inches of water column (W.C.)

(2) CPM 750 is a light beam indicator. Triboguard is a triboelectric indicator.

(3) No Visible Emissions (N.V.E.)

Monitoring Methods

- Daily
  - Check for dust collector differential pressure.
- Weekly
  - Observe for visible emissions during material handling of unit. If a visible emissions reading cannot be made, record the differential pressure reading.
  - Visually verify HEPA filters on CE804CR are in place.
- Monthly
  - Inspect dust collector cleaning sequence.
  - Check hopper function and performance.
- Quarterly
  - Inspect bags for leaks and wear.
- Semi-Annually
  - Inspect all dust collector components that are not subject to wear or plugging, including structural components, housing, ducts and hoods.

Performance Criteria

Data Representativeness

An observation of visible emissions could indicate a decrease in the performance of the dust collector and an increase in particulate emissions. A differential pressure reading not within the acceptable indicator range could indicate performance by the dust collector and potentially an increase in particulate emissions.

Record Keeping and Reporting (Verification of Operational Status)

- John Deere Foundry Waterloo will maintain records of the following:
  - Daily logs of differential pressure readings.
  - Weekly logs of emissions observations.
  - All daily, monthly, quarterly, and semi-annually required inspections and maintenance. The date, time, and the location of the bag in relationship to the other bags must document bag replacement.
  - All corrective actions resulting from compliance indicators and inspections and maintenance.
  - Excursion, indicator opacity exceedance, and excess emissions reports.
- Records will be kept for at least five (5) years and be available to the IDNR upon request.

Quality Control

- The dust collectors and their monitoring equipment will be operated and maintained according to manufacturer recommendations and/or as outlined in the above monitoring requirements.
- John Deere Foundry Waterloo will maintain an adequate inventory of spare parts.

Data Collection Procedures

- Manual log entries are made based on gauge readings and the observation (or not) of visible emissions.
- Maintenance personnel record all maintenance/inspection performed on the dust collector and actions resulting from the inspection.

Authority for Requirement: 567 IAC 22.108(3)

CAM Plan for CE 082 and CE 083

Background

Emission Unit

Description: Phenolic Urethane Cold Box Core Making Line
Identification: P-082
Facility: John Deere Waterloo Foundry

Applicable Regulation, Emission Limits and Monitoring Requirements

Regulation No.: Construction Permits 13-A-192-P2 & 95-A-002-P6
Regulated pollutant (PSEU): VOC (amine catalyst)
Emission Limit: 99% catalyst reduction, or 1 ppmv catalyst
Monitoring Requirements: Continuously monitor scrubbing liquid flow rate, pH, and differential pressure

Control Technology: Packed bed scrubbers

Monitoring Approach

The key elements of the monitoring approach for VOC, including the indicators to be monitored, indicator ranges, and performance criteria, are presented in Tables A, B, and C.

Table A. Flow Rate Monitoring Approach

I.	Indicator Measurement Approach	Scrubbing liquid flow rate. The scrubbing liquid flow rate is monitored with an electromagnetic flow meter.
II.	Indicator Range	An excursion is defined as a scrubber water flow rate measured at a value of less than 200 gal/min for more than 15 minutes. Excursions trigger an inspection and corrective action. An excursion does not necessarily indicate a deviation of violation of applicable permit terms, conditions, and/or requirements.
III.	Performance Criteria	
	A. Data Representativeness	The flow meter is installed in the scrubbing liquid inlet line. The accuracy is ± 0.5% of the measured value.
	B. Verification of Operational Status	In operation prior to CAM requirement.
	C. QA/QC Practices	Calibration as recommended by manufacturer
	D. Monitoring Frequency Data Collection Procedure Averaging Period	Measured continuously. Recorded once per 15 minutes. NA

Table B. pH Monitoring Approach

I.	Indicator Measurement Approach	Scrubbing liquid pH. The scrubbing liquid pH is monitored with an electrode glass sensor pH meter.
II.	Indicator Range	An excursion is defined as a scrubber water pH measured at a value above 4.5 for more than 15 minutes. Excursions trigger an inspection and corrective action. An excursion does not necessarily indicate a deviation of violation of applicable permit terms, conditions, and/or requirements.
III.	Performance Criteria	
	A. Data Representativeness	The pH meter is installed submerged in the scrubbing liquid reservoir near the recirculation inlet.
	B. Verification of Operational Status	In operation prior to CAM requirement.
	C. QA/QC Practices	Calibration as recommended by manufacturer
	D. Monitoring Frequency Data Collection Procedure Averaging Period	Measured continuously. Recorded once per 15 minutes. NA

Table C. Differential Pressure Monitoring Approach

I.	Indicator Measurement Approach	Packed bed pressure differential. The packed bed differential pressure is monitored with a magnetic diaphragm differential pressure transmitter.
II.	Indicator Range	An excursion is defined as a differential pressure measured at a value below 0.5 or above 5.5 inches of water column. Excursions trigger an inspection and corrective action. An excursion does not necessarily indicate a deviation of violation of applicable permit terms, conditions, and/or requirements.
III.	Performance Criteria	
	A. Data Representativeness	The differential pressure transmitter is installed at the packed bed scrubber. The minimum accuracy is ± 1%.
	B. Verification of Operational Status	In operation prior to CAM requirement.
	C. QA/QC Practices	Calibration as recommended by manufacturer
	D. Monitoring Frequency Data Collection Procedure Averaging Period	Measured continuously. Recorded once per 15 minutes. NA

Authority for Requirement: 567 IAC 22.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*
6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 22.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—22.104(455B), permit expiration terminates a source's right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—22.105(455B). *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department to the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, Wallace State Office Building, 502 E 9th St., Des Moines, IA 50319-0034, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to U.S. EPA Region VII, Attention: Chief of Air Permits, 11201 Renner Blvd., Lenexa, KS 66219. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The emissions inventory shall be submitted annually by March 31 with forms specified by the department documenting actual emissions for the previous calendar year.
4. The fee shall be submitted annually by July 1 with forms specified by the department.
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.
3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:
    a. Comply with all terms and conditions of this permit specific to each alternative scenario.
    b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 725-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall

be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required initial reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

vi. The steps that were taken to limit the excess emission.

vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control

of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice fulfills the requirement of paragraph 22.108(5)"b." – See G15. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);

c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
d. The changes are not subject to any requirement under Title IV of the Act (revisions affecting Title IV permitting are addressed in rules 567—22.140(455B) through 567 - 22.144(455B));.
e. The changes comply with all applicable requirements.
f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,
ii. The date on which the change will occur,
iii. Any change in emission as a result of that change,
iv. The pollutants emitted subject to the emissions trade
v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*
3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*
4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*
5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that does any of the following:

i. Correct typographical errors
ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;
iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Title V Permit Modification.

a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:

i. Do not violate any applicable requirement;

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;

iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification under rule 567 - 22.113(455B).

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;

ii. The permittee's suggested draft permit;

iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions

during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.111-567 IAC 22.113*

G19. Duty to Obtain Construction Permits

Unless exempted in 567 IAC 22.1(2) or to meet the parameters established in 567 IAC 22.1(1)"c", the permittee shall not construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, or conditional permit, or permit pursuant to rule 567 IAC 22.8, or permits required pursuant to rules 567 IAC 22.4, 567 IAC 22.5, 567 IAC 31.3, and 567 IAC 33.3 as required in 567 IAC 22.1(1). A permit shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source or anaerobic lagoon. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations (*567 IAC 23.1(3)"a");* training fires and controlled burning of a demolished building *(567 IAC 23.2).*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as provided in 567 IAC 23.2. *567 IAC 23.2 <u>except</u> 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into

interstate commerce pursuant to § 82.106.

b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.

c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.

d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.

2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

5. The permittee shall be allowed to switch from any ozone-depleting or greenhouse gas generating substances to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;

b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;

c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.

d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 22.114(3)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or

b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of 567 IAC 22.111(1). *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department’s request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that

rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-9545

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.

567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
U.S. EPA Region 7
Air Permits and Compliance Branch
11201 Renner Blvd.
Lenexa, KS 66219
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-8200

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
7900 Hickman Road, Suite #200
Windsor Heights, IA 50324
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health
Air Quality Branch
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

VI. Appendix A: NESHAP

1. Subpart EEEEE—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries
   http://www.ecfr.gov/cgi-bin/text-idx?SID=f12aac25117bae39e8e9aa5751e382cc&node=sp40.14.63.eeeee&rgn=div6